

Vaisala

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VAISALA

Vaisala

Vaisala is a global leader in environmental and industrial measurement.

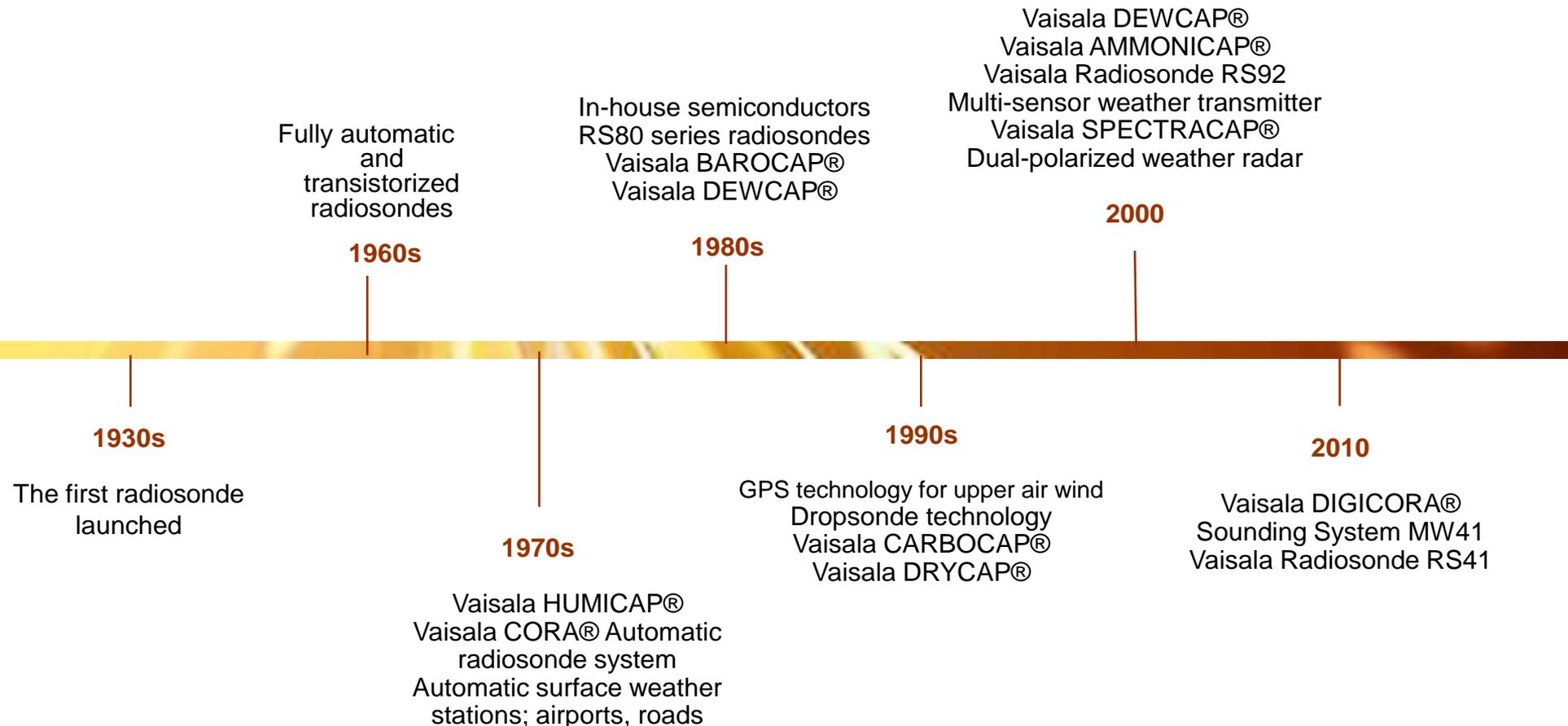
We serve customers in weather and controlled environment markets.

Vilho Väisälä

- The founder of the Vaisala Group
Dr. Vilho Väisälä 1889–1969
 - Received university degree and doctorate in mathematics
 - Worked at the Finnish Meteorological Institute in 1916–1948
 - Professor of meteorology at the University of Helsinki
 - Produced over one hundred scientific papers and ten patented inventions



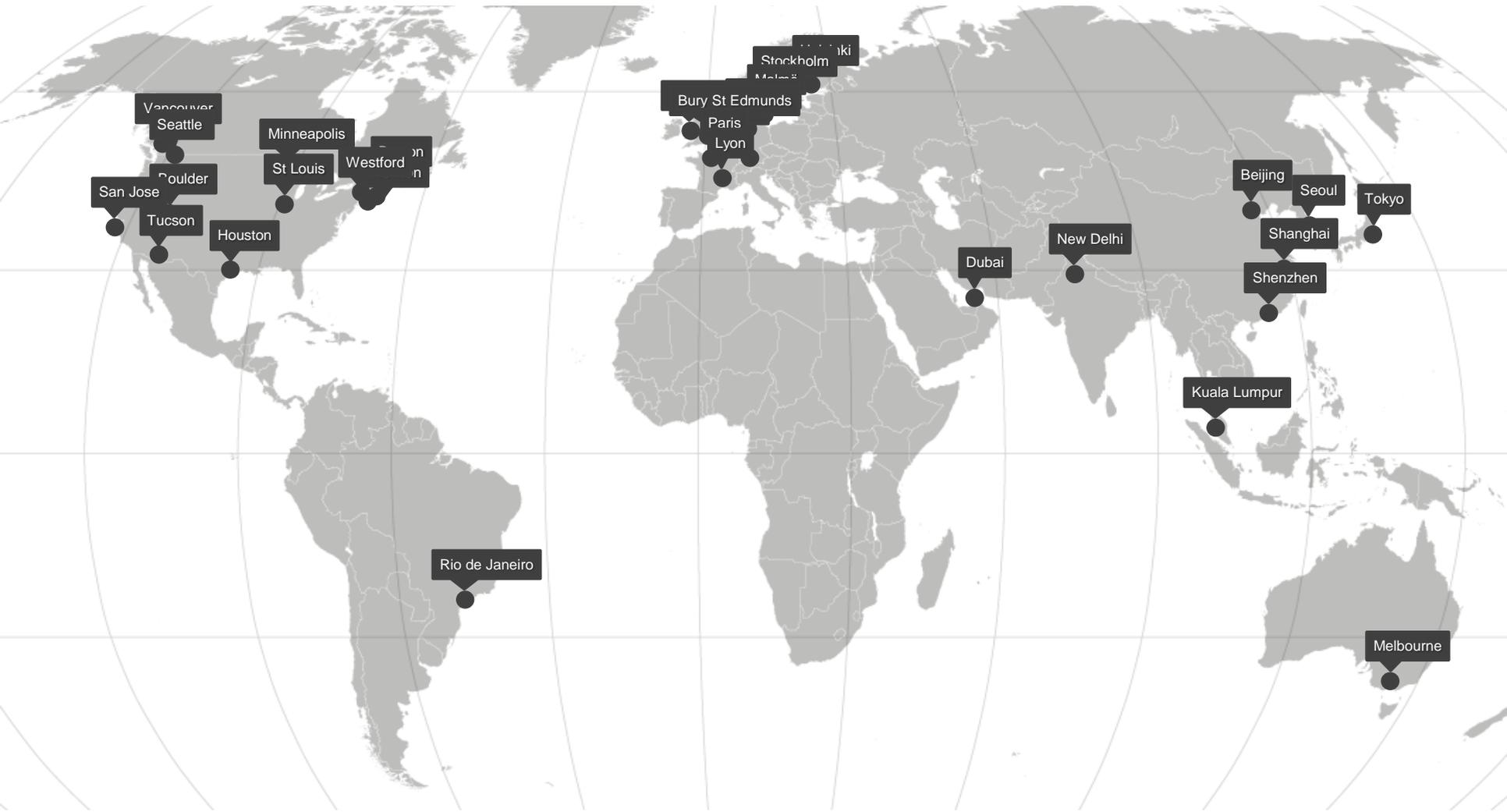
Technological Milestones



Vaisala Group

- Serves customers in over 150 countries
- Employs over 1,500 professionals worldwide
- Has over 30 offices in 16 countries
- Net sales of 273 million euros (2013)
- Main markets Americas (39%), EMEA (36%), APAC (24%)
- A series shares quoted in NASDAQ OMX Helsinki stock exchange
- Established in 1936

Vaisala Offices



Markets We Serve

Weather



Meteorology



Airports



Roads and Rail



Defense



New Weather Markets

Controlled Environment



Life Science



Targeted Industrial Applications

Our Offering

VAISALA

Measurement Instruments

- Humidity and temperature measurement instruments
- Dewpoint measurement instruments
- Barometric pressure measurement instruments
- Carbon dioxide measurement instruments
- Moisture in oil measurement instruments
- Wind measurement instruments
- Weather multi-sensor
- Optical weather instruments



Measurement Systems

- We provide our customers with comprehensive measuring and observation systems
- Weather
 - Radiosondes and sounding systems
 - Dropsondes
 - Surface weather systems
 - Thunderstorm information systems
 - Weather radars
- Controlled Environment
 - Continuous monitoring systems

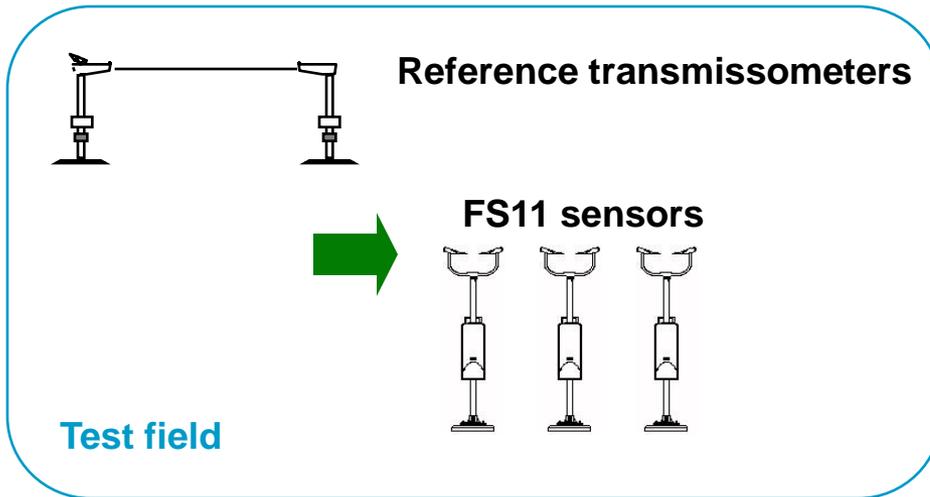


Visibility Sensor FS11 for Demanding Applications

- Accurate and reliable measurement
 - Well suited for Synoptic observations
 - Measurement range 5m-75km
 - Meets ICAO/WMO and FAA RVR requirements.
 - Design based on FAA experiences and ICAO guidelines for RVR
 - Approved by FAA, used in FAA's systems
 - Approved and used by NOAA/NOS
 - Built in compensation for different types of precipitation
 - Unique window contamination compensation
- Safety
 - Extensive self-diagnostics



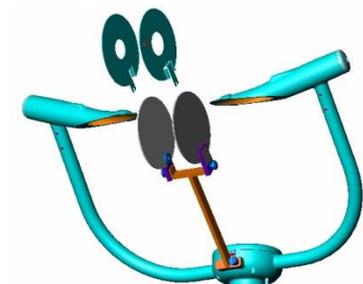
Calibration chain



- Test field is equipped with reference sensors
 - visibility
 - present weather
 - etc.

- A set of FS11 sensors is calibrated against reference sensors
- This calibration is transferred to production units with a calibration device

➔ **Calibrator**



Production units

AWS310 Automatic Weather Station

- Simple plug-and-play interface
- Meets WMO guidelines
- Rapid delivery (5 weeks)
- Ultrasonic Wind speed and direction.
- Precipitation intensity and Accumulation
- Soil surface temperature
- Solar Radiation
- Visibility
- Cloud Height
- Ultrasonic Snow Depth Sensor
- Multiple mast options



MAWS50

- 2 Year Warranty
- Low life cycle cost
- Multiple SDI-12 ports for up to 30 sensors
- Din rail connections
- Flexible programming options
- Fast shipping
- NEMA 6
- CS2 GOES certified radio
- Basic Vaisala sensors connections and configurations at no additional cost.



MAWS50

- MAWS uses a standard RS232 interface for the Program I/O port – Service Connection
- Any terminal program can be used. We provide one at no charge.
- Vaisala offers a standard USB interface cable
- Any of the I/O ports can be used as a service connection



Weather Transmitter WXT520 in brief



- Six weather parameters in one package
 - wind speed 0..60 m/s
 - wind direction 0-360°
 - liquid precipitation and hail (accumulation, duration, intensity)
 - pressure 600...1100 hPa
 - temperature -52...+60 °C (-60...+140 °F)
 - relative humidity 0...100 %RH
- Options available:
 - Windows® based configuration software and cable
 - USB
 - Heating for the precipitation and wind sensors
 - 8-pin M12 connector
 - Mounting kit
 - Bird kit
 - Available at HIF

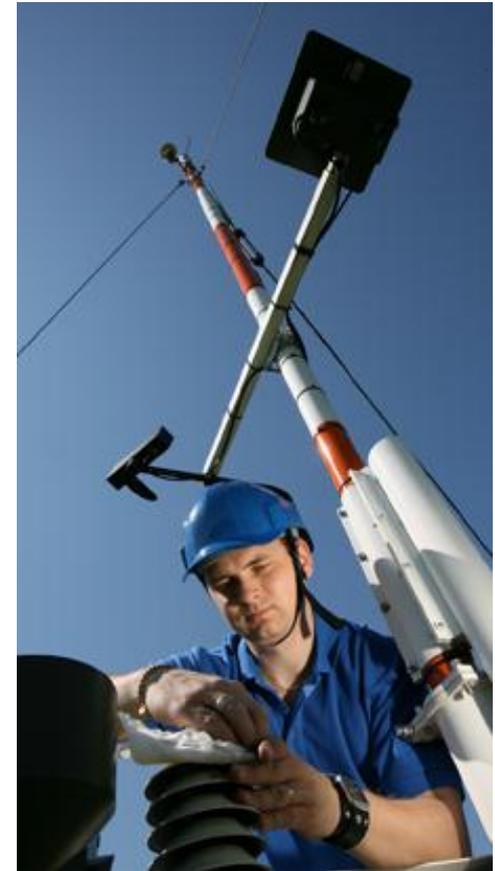
Solutions

- We provide solutions for environmentally critical operations
- The focus is on
 - Aviation solutions
 - Traffic solutions
 - Meteorological and hydrological solutions



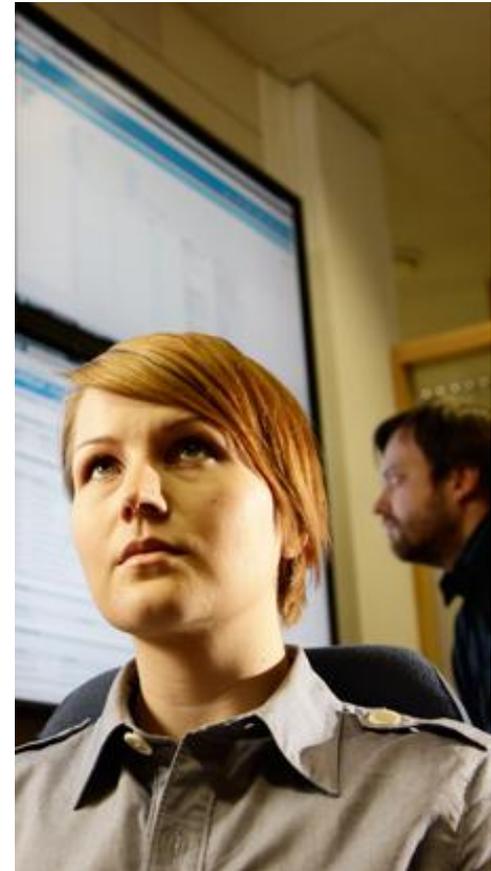
System Life Cycle Services

- Vaisala offers a selection of services during different phases of life cycle.
- Services include
 - Delivery Project Services
 - Project management, installation, training
 - Support and Maintenance
 - Technical support, remote monitoring, preventive & corrective maintenance, spare parts, calibrations
 - Available on request or by contract
 - Modernization Services
 - System upgrades, software upgrades



Service Solutions and Data Subscription Services

- Vaisala provides measurement information in the right place at the right time in the right format, based on customer needs.
 - Service Solutions
 - Customer specific solutions based on a combination of customer's business goals and concerns, critical environmental challenges and organizational competencies and capabilities.
 - For example network operation, decision support activities and guaranteed performance levels
 - Data Subscriptions
 - Guaranteed quality and availability of data, through observation network owned and operated by Vaisala



Research and Development

VAISALA

Research and Development

- Research and development activities are a prerequisite for Vaisala's success.
- The R&D expenditure is around 10% of net sales.
- In addition to internal research activities, Vaisala
 - Partners with leading research organizations
 - Supports meteorological programs and studies
 - Supports student research internships and fellowships



The background is a vibrant blue gradient. It features several bright, white-to-cyan light streaks that appear to be moving or radiating from the left side towards the right. In the lower right quadrant, there is a faint, semi-transparent image of a globe or a similar spherical object, partially obscured by the light streaks. The overall effect is dynamic and futuristic.

Thank You